

The following claims are presented for examination:

1 **1. (Original)** An apparatus comprising:

2 a receiver support structure, wherein:

3 said receiver support structure has a central axis; and

4 said receiver support structure supports a plurality of receivers,

5 wherein said plurality of receivers are disposed at a first radial distance

6 from said central axis;

7 a first dispensing element, wherein:

8 said first dispensing element dispenses a first ingredient; and

9 said first dispensing element is disposed above said receiver support

10 structure at said first radial distance;

11 a drive system, wherein:

12 said drive system comprises a first drive; and

13 said drive system causes, via rotary motion, a relative movement

14 between said dispensing element and said receivers; and

15 a system controller, wherein:

16 said system controller comprises means for causing said dispensing

17 element to dispense said first ingredient as a plurality of pulses; and

18 each pulse contains less than twenty percent of a total amount of said

19 first ingredient to be delivered to one of said receivers.

1 **2. (Original)** The apparatus of claim 1 wherein each pulse contains less than
2 ten percent of the total amount of said first ingredient to be delivered to said one
3 receiver.

1 **3. (Original)** The apparatus of claim 1 wherein each pulse contains less than
2 one percent of the total amount of said first ingredient to be delivered to said one
3 receiver.

1 **4. (Original)** The apparatus of claim 1 wherein each pulse contains less than
2 one-tenth of one percent of the total amount of said first ingredient to be delivered
3 to said one receiver.

1 **5. (Original)** The apparatus of claim 1 wherein said drive system is rotatably
2 coupled to said first dispensing element.

1 **6. (Original)** The apparatus of claim 5 wherein said drive system comprises a
2 rotatable member, wherein said rotatable member has at least one arm, and wherein
3 said first dispensing element depends from said arm.

1 **7. (Original)** The apparatus of claim 6 wherein said drive system comprises a
2 reservoir support structure, wherein said reservoir support structure supports at least
3 a first reservoir.

1 **8. (Original)** The apparatus of claim 7 wherein said drive system comprises a
2 drive shaft, and wherein:
3 said rotatable member is coupled to said drive shaft; and
4 said reservoir support structure is coupled to said drive shaft.

1 **9. (Original)** The apparatus of claim 8 wherein said drive shaft is hollow, and
2 further comprising:
3 said first reservoir; and
4 a first conduit, wherein said first conduit passes through said drive shaft and
5 fluidically couples said first reservoir to said first dispensing element.

1 **10. (Original)** The apparatus of claim 1 further comprising a second drive,
2 wherein said receiver support structure is rotatably coupled to said second drive.

1 **11. (Original)** The apparatus of claim 10 wherein said second drive is
2 physically adapted to move said receiver support structure in step-wise fashion.

1 **12. (Original)** The apparatus of claim 1 wherein said drive system is rotatably
2 coupled to said receiver support structure.

1 **13. (Original)** The apparatus of claim 12 further comprising:
2 a non-rotatable member, wherein said first dispensing element depends from
3 said non-rotatable member; and
4 at least a first reservoir, wherein said first reservoir is disposed on said non-
5 rotatable member.

1 **14. (Original)** The apparatus of claim 1 wherein said receiver support structure
2 is a platform, wherein said platform comprises a plurality of removable segments,
3 wherein each segment accommodates one of said receivers.

1 **15. (Original)** The apparatus of claim 14 wherein said removable segments
2 include a stirrer drive.

1 **16. (Original)** The apparatus of claim 1 wherein said first dispensing element
2 comprises a nozzle, wherein said nozzle has:

3 an inner passageway leading to an orifice, wherein said inner passageway
4 receives said first ingredient and dispenses it through said orifice; and

5 a shroud, wherein:

6 said shroud surrounds said inner passageway;

7 said shroud receives a first fluid, and

8 said first fluid controls a flow of said ingredient out of said orifice.

1 **17. (Original)** The apparatus of claim 16 wherein said inner passageway is
2 characterized by a venturi configuration.

1 **18. (Original)** The apparatus of claim 1 further said plurality of receivers.

1 **19. (Original)** The apparatus of claim 18 comprising a sampling/mixing system,
2 wherein, said sampling/mixing system comprises:

3 a device for aspirating liquid from, and delivering it to, one of said receivers;

4 a conduit having a first end and a second end, wherein:

5 said first end is coupled to a port in said one receiver; and

6 said second end is coupled to said device for aspirating and delivering

7 liquid.

1 **20. (Original)** The apparatus of claim 19 further comprising an analysis
2 window, wherein:

3 said analysis window is coupled to said conduit between said first end and

4 said second end; and

5 said analysis window is disposed beneath said receiver support structure.

1 **21. (Original)** The apparatus of claim 20 further comprising an analytical
2 station, wherein said analytical station is disposed beneath said receiver support
3 structure, and wherein said analytical station comprises:
4 an emitter, wherein said emitter emits radiation;
5 a detector, wherein said detector is coupled to analysis electronics; and
6 a space between said emitter and said detector, wherein said space defines
7 a testing region and wherein said testing region is physically adapted to receive
8 said analysis window.

1 **22. (Original)** An apparatus comprising:
2 a dispensing system, wherein said dispensing system has a first plurality of
3 dispensing elements for dispensing a second plurality of ingredients into a third
4 plurality of receivers;
5 a drive system, wherein said drive system causes, via a rotary motion, a
6 relative movement between said dispensing system and said receivers to align one of
7 said dispensing elements with one of said receivers; and
8 a system controller, wherein said system controller comprises:
9 means for causing said dispensing element to dispense each of said
10 ingredients as a plurality of pulses; and
11 means for determining flow rate of said second plurality of ingredients
12 into said third plurality of receivers on a per ingredient, per receiver
13 basis, said means for determining flow rate comprising:
14 a device for measuring total flow of each of said ingredients; and
15 means for apportioning said flow on a per ingredient, per
16 receiver basis.

1 **23. (Original)** The apparatus of claim 22 wherein said system controller
2 further comprises means for real-time adjustment of flow rate, wherein said means
3 for real-time adjustment of flow rate comprises means for changing a quantity of
4 ingredient contained in said pulses.

1 **24. (Original)** An apparatus comprising:
2 a dispensing system, wherein said dispensing system has a first plurality of
3 dispensing elements for dispensing a second plurality of ingredients into a third
4 plurality of receivers;
5 a drive system, wherein said drive system causes, via a rotary motion, a
6 relative movement between said dispensing system and said receivers to align one of
7 said dispensing elements with one of said receivers; and
8 a system controller, wherein said system controller comprises means for
9 distributed dispensing.

1 **25. (Original)** An apparatus comprising:
2 a first drive;
3 a rotatable member, wherein:
4 said rotatable member is coupled to said first drive; and
5 said rotatable member comprises a first arm and a second arm;
6 a first platform, wherein said first platform:
7 is disposed beneath said rotatable member;
8 supports a plurality of receivers; and
9 is coupled to a second drive;
10 a second platform, wherein said second platform:
11 is disposed beneath said first platform;
12 supports a plurality of reservoirs, and
13 is coupled to said first drive;
14 a first dispensing element, wherein said first dispensing element:
15 depends from said first arm; and
16 is fluidically coupled to at least a first one of said reservoirs; and
17 a second dispensing element, wherein said second dispensing element:
18 depends from said second arm; and
19 is fluidically coupled to at a second one of said reservoirs.

- 1 **26. (Original)** The apparatus of claim 25 further comprising:
- 2 a first liquid-transport system, wherein said first liquid-transport system delivers a
- 3 first liquid from said first reservoir to said first dispensing element; and
- 4 a second liquid-transport system, wherein said second liquid-transport system
- 5 delivers a second liquid from said second reservoir to said second dispensing element.